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APPLICATION NO.	FII	LING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/457,732	1	2/10/1999	ANDREA CALIFANO	YO999-137	9999-137 8003	
21254	7590	03/21/2005		EXAMINER		
MCGINN 8	•	PLLC USE ROAD		LAFORGIA, C	HRISTIAN A	
SUITE 200	OOKINO	USE KOAD		ART UNIT	PAPER NUMBER	
VIENNA, V	'A 22182	-3817		2131		

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

· ·	Application No.	Applicant(s)	
	09/457,732	CALIFANO ET AL.	
Office Action Summary	Examiner	Art Unit	
	Christian La Forgia	2131	
The MAILING DATE of this communication			
Period for Reply			
A SHORTENED STATUTORY PERIOD FOR RE THE MAILING DATE OF THIS COMMUNICATIO  - Extensions of time may be available under the provisions of 37 CFF after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a  - If NO period for reply is specified above, the maximum statutory per  - Failure to reply within the set or extended period for reply will, by sta Any reply received by the Office later than three months after the mearned patent term adjustment. See 37 CFR 1.704(b).	N. R 1.136(a). In no event, however, may a re- reply within the statutory minimum of thirt- iod will apply and will expire SIX (6) MON atute, cause the application to become AB	eply be timely filed  y (30) days will be considered timely.  THS from the mailing date of this communication.  ANDONED (35 U.S.C. § 133).	
Status			
1)⊠ Responsive to communication(s) filed on 23	5 February 2005.		
	his action is non-final.		
3) Since this application is in condition for allocal closed in accordance with the practice under	· ·		
Disposition of Claims			
4) ☐ Claim(s) 1-3 and 5-36 is/are pending in the 4a) Of the above claim(s) is/are without 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 1-3 and 5-36 is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and	Irawn from consideration.		
Application Papers			
9) The specification is objected to by the Exam	iner.		
10) The drawing(s) filed on is/are: a) a	accepted or b) objected to t	by the Examiner.	
Applicant may not request that any objection to t	• • • • • • • • • • • • • • • • • • • •	, ,	
Replacement drawing sheet(s) including the cord	· · · · · · · · · · · · · · · · · · ·	• •	
Priority under 35 U.S.C. § 119			
<ul> <li>12) Acknowledgment is made of a claim for fore</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority docume</li> <li>2. Certified copies of the priority docume</li> <li>3. Copies of the certified copies of the papplication from the International Bur</li> <li>* See the attached detailed Office action for a line</li> </ul>	ents have been received. ents have been received in A riority documents have been eau (PCT Rule 17.2(a)).	oplication No received in this National Stage	
Attachment(s)			
<ol> <li>Notice of References Cited (PTO-892)</li> <li>Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>Information Disclosure Statement(s) (PTO-1449 or PTO/SB/Paper No(s)/Mail Date</li> </ol>	Paper No(s	ummary (PTO-413) )/Mail Date formal Patent Application (PTO-152) 	

### **DETAILED ACTION**

### Continued Examination Under 37 CFR 1.114

- 1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 25 February 2005 has been entered.
- 2. Claims 1-3 and 5-36 have been presented for examination.

## Response to Arguments

- 3. Applicant's arguments filed 25 February 2005 have been fully considered but they are not persuasive.
- 4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies, such as how to compare encrypted data against stored encrypted data, are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).
- 5. In response to the Applicant's assertion that Borza does not disclose whether h(P) is close to h(P') by comparison. First, Borza discloses in column 8, lines 28-30 that in an alternative embodiment, the encrypted characterized biometric information is compared against an encrypted template, thereby teaching the Applicant's limitation of comparing h(P') to h(P). Borza goes on later in column 16, lines 31-38 that: "Identification of an

individual is performed by evaluating values from the registration to determine a probability...of false acceptance and false rejection. When the value is within predetermined limits for an acceptable value, identification is provided. Thus Borza discloses determining whether h(P) is close to h(P') by comparison.

- 6. In response to applicant's argument that the present invention is adapted to accommodate the lack of absolute reproducibility in the observation of personal data, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).
- 7. The prior art [Borza] accounts for performing the intended use in column 11, lines 25-55. Borza discloses techniques accounting for failing to produce a sample exactly the same as the registration sample.
- 8. In response to the Applicant's arguments that Borza could not work, since such a comparison would generally be based on comparing matching scores and, because encryption diffuses the data, such comparison against the scores of encrypted data would not work, the Examiner believes the argument the Applicant makes pertains to the claims of the instant application which necessitated the grounds for the 112 rejections that follow.

Application/Control Number: 09/457,732 Page 4

Art Unit: 2131

9. In response to the Applicant's allegation that Borza does not disclose or suggest with sufficient specificity how such a comparison could be implement or accomplished, the Examiner calls upon MPEP § 2121. When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable. Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. See *In re Sasse*, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). See also MPEP § 716.07.

- 10. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).
- 11. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).
- 12. See further rejections that follow.

# Claim Rejections - 35 USC § 112

13. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 14. Claims 1-36 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Acquiring P' and computing h(P') are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). In accordance with Figure 2, specifically blocks 201 and 202, in order to compare h(P) and h(P'), P' must be acquired from the subject and h(P') must be computed in order for a comparison to be made.
- 15. Claims 3, 15, 16, 31, and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Enablement is not supported when claiming a hash function. It is well known in the art that hash functions produce an amount of binary data, and that the same data will produce the same hash value when passed through the same hash algorithm. It is also well known that data varying by one character can produce very different hash values. Therefore, hashed data being compared could not be verified as close enough because two very similar, but not the same, samples could provide two very different hash values.
- 16. Claims 3, 15, 16, 31, and 32 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for comparing encrypted semiotic data samples, does not reasonably provide enablement for comparing hashed semiotic data samples. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention

commensurate in scope with these claims. It is well known in the art that hash functions produce an amount of binary data, and that the same data will produce the same hash value when passed through the same hash algorithm. It is also well known that data varying by one character can produce very different hash values. Therefore, hashed data being compared could not be verified as close enough because two very similar, but not the same, samples could provide two very different hash values.

- 17. Claims 27 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose adequate structure (or material or acts) for performing the recited function is closely related to the question of whether the specification meets the description requirement. See *In re Noll*, 545 F.2d 141, 149, 191 USPQ 721, 727 (CCPA 1976).
- 18. Claims 27 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. After reviewing the Specification again, the Examiner failed to find the claimed subject matter described in the specification such that one could recreate or use the invention. The Applicant does not point to where in the Specification that support for means-plus-function language is supported.
- 19. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 20. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what the claim language is trying to encompass, it appears to either be confirming that a sample of semiotic or biometric data is stored in a set of semiotic or biometric samples OR authenticating/verifying a user identity based on a comparisons of encrypted semiotic or biometric samples.
- 21. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are:

obtaining a sample of P' such that a comparison can be made; computing h(P').

- 22. The term "close" in claims 1-3, 24-26, and 31-34 is a relative term which renders the claim indefinite. The term "close" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear how close is close enough to determine a match, thereby rendering the claim indefinite.
- 23. Claims 24-36 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are:

obtaining a sample of P' such that a comparison can be made; computing h(P').

24. Claims 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. If one employs means plus function language in a claim, one must set forth in the specification an adequate disclosure showing what that language means. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention. See MPEP § 2181; see *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994).

### Claim Rejections

- 25. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- 26. Claims 1-3, 9, 14-18, 20, 24-28, 30-34, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,446,210 to Borza, hereinafter Borza.
- 27. As per claims 1, 24, and 31, Borza teaches a method of processing semiotic data, comprising:

receiving semiotic data including a data set P (Figures 3 [block 80], 5, 7a, 7b, 10, 11, 13, 14, 15; column 2, line 52 to column 3, line 23; column 8, lines 4-28);

selecting a function h, and for at least one of each said data set P to be collected, computing h(P) (Figure 5; column 7, line 45 to column 8, line 3);

destroying said data set P (column 2, lines 27-29); and storing h(P) in a database (Figures 7a, 7b, 12; column 12, lines 39-53); and

to determine whether P' is close to a predetermined subject, comparing h(P) to all available h(P)s to determine whether P' is close to some P (Figures 12, 13, 16, 17; column 8, lines 28-38, column 14, lines 21-59, column 16, lines 61-37, column 16, lines 53-58, i.e. "when the value is within predetermined limits for an acceptable value, identification is provided....when the value falls outside the predetermined limits identification is not provided");

wherein said data set P cannot be extracted from h(P) (column 8, lines 28-38).

- 28. Regarding claims 2 and 25, Borza teaches wherein said semiotic data comprises biometric data (column 11, line 65 to column 12, line 18).
- 29. Regarding claim 3, Borza teaches wherein said function h comprises a secure hash function (Figure 5; column 7, line 45 to column 8, line 3).
- 30. As per claim 9, Borza teaches a method of processing semiotic data, comprising: receiving semiotic data including a data set P (Figures 3 [block 80], 5, 7a, 7b, 10, 11, 13, 14, 15; column 2, line 52 to column 3, line 23; column 8, lines 4-28);

selecting a function h, and for at least one of each said data set P to be collected, computing h(P) (Figure 5; column 7, line 45 to column 8, line 3);

destroying said data set P (column 2, lines 27-29); and storing h(P) in a database (Figures 7a, 7b, 12; column 12, lines 39-53); and wherein said data set P cannot be extracted from h(P) (column 8, lines 28-38);

wherein the data set P is not determined perfectly by its reading (column 11, lines 25-34),

wherein each reading gives a number Pi, wherein i is no less than 0, wherein P0 is for an initial reading, and a secret version of said initial reading is stored after further processing thereof (column 11, line 65 to column 12, line 34),

wherein reading P0 is different from Pi for i > 0, and the secret version of P0 is different from the secret version of Pi, such that no identification is possible by a direct comparison of the encrypted data (column 11, line 65 to column 12, line 34).

- Regarding claims 14, 16, 18, 20, 26, 28, 30, 32, 34, and 36 Borza teaches wherein at least one of said data set P and P' comprises a personal data set (column 12, lines 25-34).
- 32. As per claims 15, 17, 27, and 33, Borza teaches a method of processing biometric data, comprising:

acquiring unencrypted biometric data including at least one data set P (Figure 3 [block 80]; column 8, lines 4-28);

encrypting, with one of a secure hash function and an identity function, each said at least one data set acquired (Figure 3 [block 73]; column 5, lines 42-54; column 8, lines 28-38);

destroying the unencrypted data set P (column 2, lines 27-29);

storing each of the at least one encrypted data set in a database (Figures 7a, 7b, 12; column 8, lines 28-48; column 12, lines 39-53),

wherein unencrypted biometric data is not available nor retrievable from said data stored in said database (column 8, lines 28-38),

to determine whether a data set P' is a predetermined subject, comparing an encrypted data set of P' to the at least one encrypted data set stored in the database to determine whether there is a match (Figure 12; column 8, lines 28-38).

- 33. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza.
- 34. As per claim 5, Borza teaches a method of processing semiotic data, comprising: receiving semiotic data including a data set P (Figures 3 [block 80], 5, 7a, 7b, 10,
- 11, 13, 14, 15; column 2, line 52 to column 3, line 23; column 8, lines 4-28);

selecting a function h, and for at least one of each said data set P to be collected, computing h(P) (Figure 5; column 7, line 45 to column 8, line 3);

destroying said data set P (column 2, lines 27-29); and storing h(P) in a database (Figures 7a, 7b, 12; column 12, lines 39-53); and wherein said data set P cannot be extracted from h(P) (column 8, lines 28-38); the method further comprising:

selecting a private key/public key (K, k) once for all cases (column 4, lines 26-32); and

choosing said function h as the public encryption function corresponding to k (column 5, lines 28-54).

35. Borza does not teach destroying said private key K and sending said private key K to a trusted party. It would have been obvious to one having ordinary skill in the art at the time the invention was made to destroy the private key K and send it the private key

K to a trusted third party, since it is known in the art that the private key is needed to decrypt any message encrypted with public key k, therefore the fewer entities that have access to private key K equals the fewer number of people that can access messages encrypted with public key k.

- 36. Regarding claim 6, Borza teaches wherein said data set P cannot be extracted from h(P), except by the trusted party (column 8, lines 28-38).
- 37. Regarding claim 7, Borza teaches to determine whether some P' is a predetermined subject, comparing said h(P) to all available h(P)s (column 12, lines 48-61); and

determining whether there is a match (column 12, lines 48-61).

Regarding claim 8, Borza does not teach wherein the trusted party comprises a panel of members, and wherein a secret is shared among the members so that only at least a predetermined number of panel members can reconstitute the secret in its entirety by putting together their share of the secret. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the trusted party to comprise of a panel of members, and share a secret is amongst the members so that only at least a predetermined number of panel members can reconstitute the secret in its entirety by putting together their share of the secret, since it has been held that mere duplication of essential elements (e.g. trusted third party) involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. See also MPEP § \$ 2144.04.

Application/Control Number: 09/457,732 Page 13

Art Unit: 2131

39. Claims 10-13, 19, 21-23, 29, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza in view of U.S. Patent No. 6,487,662 to Kharon et al., hereinafter Kharon.

- 40. Regarding claim 10, Borza does not teach extracting sub-collections Sj from the collection of data in data set P; and encrypting a predetermined number of such sub-collections such that at least one of the sub-collections is reproduced exactly with a predetermined probability.
- 41. Kharon teaches extracting sub-collections Sj from the collection of data in data set P (Figure 6 [block 340]; column 13, lines 43-67); and

encrypting a predetermined number of such sub-collections such that at least one of the sub-collections is reproduced exactly with a predetermined probability (Figure 6 [block 347]; column 13, lines 43-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to sample a smaller section of the data set. One would be motivated to do because there is a better probability that a smaller area is less likely to change, therefore making it more difficult for someone to steal someone's identification.

42. With regards to claims 11 and 21, Borza does not teach comparing encrypted versions of the sub-collections Sj with those data stored in said database, wherein if one or more of the sub-collection Sj matches with said data, then verification is deemed to have occurred.

43. Kharon teaches comparing encrypted versions of the sub-collections Sj with those data stored in said database (Figure 6 [blocks 345, 347]; column 13, lines 43-67; column 14, lines 28-39; column 15, lines 42-55),

wherein if one or more of the sub-collection Sj matches with said data, then verification is deemed to have occurred (Figure 6 [blocks 345, 347]; column 13, lines 43-67; column 14, lines 28-39; column 15, lines 42-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to sample a smaller section of the data set. One would be motivated to do because there is a better probability that a smaller area is less likely to change, therefore making it more difficult for someone to steal someone's identification.

44. Concerning claims 12 and 23, Borza teaches each time a Pi, with i > 0, is read, computing all possible predetermined size variations of Pi which correspond to an acceptable predetermined imprecision of the reading (column 11, lines 25-34; column 12, lines 25-61); and

encrypting all such modified data, and comparing said encrypted modified data to data stored in said database (column 8, lines 28-48; column 12, lines 25-61).

45. Concerning claim 13, Borza teaches wherein for a plurality of users of the same biometric information, said biometric information is encrypted differently for each user (column 4, lines 46-58; column 5, lines 42-55).

46. As per claims 19, 29, and 35, Borza teaches a method of extracting components of biometric data which are stable under measurement errors, comprising:

acquiring unencrypted biometric data including at least one data set P (Figure 3 [block 80]; column 8, lines 4-28);

encrypting each said at least one data set acquired to form at least one encrypted data set (Figure 3 [block 73]; column 5, lines 42-54; column 8, lines 28-38);

destroying the unencrypted data set P (column 2, lines 27-29); and storing each said at least one encrypted data set in a database (Figures 7a, 7b, 12;

wherein unencrypted biometric data is not available nor retrievable from said data stored in said database (column 8, lines 28-38).

- 47. Borza does not teach extracting sub-collections Sj from the collection of data in data set P; and encrypting a predetermined number of such sub-collections such that at least one of the sub-collections is reproduced exactly with a predetermined probability.
- 48. Kharon teaches further comprising:

column 8, lines 28-48; column 12, lines 39-53),

extracting sub-collections Sj from the collection of data in data set P (Figure 6 [block 340]; column 13, lines 43-67); and

encrypting a predetermined number of such sub-collections such that at least one of the sub-collections is reproduced exactly with a predetermined probability (Figure 6 [block 347]; column 13, lines 43-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to sample a smaller section of the data set.

One would be motivated to do because there is a better probability that a smaller area is

less likely to change, therefore making it more difficult for someone to steal someone's identification.

49. Regarding claim 22, Borza teaches wherein the data set P is not determined perfectly by its reading, such that each reading gives a number Pi,

wherein i is no less than 0 (column 11, line 65 to column 12, line 34),

wherein P0 is for an initial reading, and a secret version of said initial reading is stored after further processing thereof (column 11, line 65 to column 12, line 34), wherein reading P0 is different from Pi for i > 0, and the secret version of P0 is different from the secret version of Pi, such that no identification is possible by a direct comparison of the encrypted data (column 11, line 65 to column 12, line 34).

- 50. Claims 1-36 are provisionally rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,697,947 to Matyas, Jr. et al.
- 51. The applicant can expect an actual rejection on the grounds of the abovementioned prior art. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). Any rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the

reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2)

### Claim Objections

52. Claims 24-36 are objected to because of the following informalities:

The preamble language is directed to a system or a signal bearing medium tangibly embodying a program of machine-readable instructions executable by a digital signal processing apparatus, yet the claim limitations are preceded by language claiming a method. The Examiner believes this to be an error and shall interpret the claim language as "the system comprising" and "the instructions comprising," respectively.

53. Appropriate correction is required.

### Conclusion

- 54. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792. The examiner can normally be reached on Monday thru Thursday 7-5.
- 55. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Application/Control Number: 09/457,732 Page 18

Art Unit: 2131

56. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business

Christian LaForgia Patent Examiner Art Unit 2131

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